POTW Name:

7/27/2011

Local Limits Calculation

Table 1 - Unit Operations (X if present)

Activated Sludge Present?	Trickling Filter Present?	Nitrification Present?	Anaerobic Digestion Present?	Sludge Incineration Present?

TABLE 2a - Stream Flow Partial Mix Factors

Complete Mix Time (minutes) (CMT)	Q7-10 Stream Flow (MGD) (Q7-10)	Harmonic Mean Stream Flow (MGD) (Qhm)	Acute Standards Compliance Time (minutes) (CTac)	Acute Partial Mix Factor (PMFa)	Other Standards Compliance Time (minutes) (CToc)	Other Partial Mix Factor (PMFo)
			15	1.000	720	1.000

(CMT) Time for discharge to mix completely in receiving stream in minutes (user entered).
(Q7-10) 7-day, 10-year low flow for receiving stream in MGD (user entered).
(Qhm) Harmonic mean flow for receiving stream in MGD (user entered).
(CTac) Compliance time for acute water quality standards in minutes (15 minutes for PA).
(PMFa) Partial mix factor for acute water quality standards (calculated).
PMFa = Square root of (CMT / CTac)
(CToc) Compliance time for chronic and threshold human health water quality standards in minutes (720 minutes for PA).
(PMFo) Partial mix factor for chronic and threshold human health water quality standards (calculated).
PMFo = Square root of (CMT / CToc)

TABLE 2b - POTW and Receiving Stream Data

POTW Flow (MGD) (Qpotw)	IU Flow (MGD) (Qind)	Sludge Flow to Digester (MGD) (Qdig)	Sludge Flow to Disposal (MTD) (Qsldg)	Stream Flow for Chronic WQS (MGD) (Qstr1)	Stream Flow for Acute WQS (MGD) (Qstr2)	Stream Flow for Threshold Human Health WQS (MGD) (Qstr3)	Stream Flow for Carcinogen Human Health WQS (MGD) (Qstr4)	Receiving Stream Hardness (mg/l) (H)	Hauled Waste Flow (MGD) (Qhw)	Incinerator Dispersion Factor ($ug/m^3/g/sec$) (DF)	Sludge Flow to Incineration (MTD) (Qinc)
				-	-	-	-				

(Qpotw) POTW's average flow in Million Gallons per Day (user entered).
(Qind) Average Industrial User total discharge flow in MGD (user entered).
(Qdig) Average sludge flow to digester in MGD (user entered).
(Qsldg) Average sludge flow to disposal in dry metric tons per day (user entered).
(Qstr1) Receiving stream (upstream) flow used with chronic water quality standards in MGD (calculated).
Qstr1 = Q7-10 * PMFo (data from Table 2a, cells C16 and H16)
(Qstr2) Receiving stream (upstream) flow used with acute water quality standards in MGD (calculated).
Qstr2 = Q7-10 * PMFa (data from Table 2a, cells C16 and F16)
(Qstr3) Receiving stream (upstream) flow used with threshold human health water quality standards in MGD (calculated).
Qstr3 = Q7-10 * PMFo (data from Table 2a, cells C16 and H16)
(Qstr4) Receiving stream (upstream) flow used with carcinogen human health water quality standards in MGD (calculated).
Qstr4 = Qhm (data from Table 2a, cell D16) If cell D16 is blank, formula below is used:
or Qstr4 = $7.43*(Q7\text{-}10)^{0.874}$ (data from cell C16)
(H) Receiving stream hardness in mg/l (user entered).
(Qhw) Hauled waste flow in MGD (user entered).
(DF) Incinerator dispersion factor in $ug/m^3/g/sec$ (user entered).
(Qinc) Average sludge flow to incineration in dry metric tons per day (user entered).

Local Limits Calculation

TABLE 3 - Local Limits Determination Based on NPDES Effluent Limits

	LOCAL LIMITS CALCULATION DATA				MAXIMUM LOADING	
Pollutant	POTW Flow (MGD) (Qpotw)	NPDES Limit (mg/l) (Ccrit)	Select Removal Efficiency (from list)	Removal Efficiency (%) (Rpotw)	Allowable Headworks (lbs/day) (Lhw)	User Entered Removal Efficiency (%)
Arsenic	-		Influent/Effluent	-	-	
Cadmium	-		Influent/Effluent	-	-	
Chromium	-		Influent/Effluent	-	-	
Copper	-		Influent/Effluent	-	-	
Cyanide	-		Influent/Effluent	-	-	
Lead	-		Influent/Effluent	-	-	
Mercury	-		Influent/Effluent	-	-	
Molybdenum	-		Influent/Effluent	-	-	
Nickel	-		Influent/Effluent	-	-	
Selenium	-		Influent/Effluent	-	-	
Silver	-		Influent/Effluent	-	-	
Zinc	-		Influent/Effluent	-	-	
Ammonia	-		Influent/Effluent	-	-	
BOD	-			-	-	
TSS	-			-	-	
Beryllium	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	
	-		Influent/Effluent	-	-	

(Qpotw)	POTW's average flow in MGD (from Table 2(b), cell B36).
(Ccrit)	NPDES permit limit for a particular pollutant in mg/l (user entered)
(Rpotw)	Removal efficiency across POTW as percent (Inf/Eff Removal (row 47), Inf/Sldg Removal (row 48), or Daily Removal (row 43) from 'Monitoring Data' sheet, EPA default for specified treatment process, or user entered (column G)).
(Lhw)	Allowable headworks pollutant loading to the POTW in pounds per day (lbs/day - calculated).
Lhw =	(8.34 * Ccrit * Qpotw) / (1-Rpotw/100)
8.34	Unit conversion factor

Local Limits Calculation

TABLE 4 - Local Limits Determination Based on Chronic Water Quality Standards

	LOCAL LIMITS CALCULATION DATA					MAXIMUM LOADING
Pollutant	POTW Flow (MGD) (Qpotw)	Receiving Stream Flow (MGD) (Qstr1)	Receiving Stream Concentration (mg/l) (Cstr)	Chronic WQS (mg/l) (Ccrit)	Removal Efficiency (%) (Rpotw)	Allowable Headworks (lbs/day) (Lhw)
Arsenic	-	-		0.15000	-	-
Cadmium	-	-		-	-	-
Chromium	-	-			-	-
Copper	-	-		-	-	-
Cyanide	-	-		0.00520	-	-
Lead	-	-		-	-	-
Mercury	-	-		0.00091	-	-
Molybdenum	-	-			-	-
Nickel	-	-		-	-	-
Selenium	-	-		0.00500	-	-
Silver	-	-			-	-
Zinc	-	-		-	-	-
Ammonia	-	-			-	-
BOD	-	-			-	-
TSS	-	-			-	-
Beryllium	-	-			-	-
	-	-			-	-
	-	-			-	-
	-	-			-	-
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(Qpotw) POTW's average flow in MGD (from Table 2(b), cell B36).
(Qstr1) Receiving stream (upstream) flow used with chronic water quality standards in MGD (from Table 2(b), cell F36).
(Cstr) Receiving stream background concentration in mg/l (user entered)
(Ccrit) State chronic water quality standard for a particular pollutant in mg/l (from PADEP Chapter 16 Appendix A Table 1 or user entered)
(Rpotw) Removal efficiency across POTW as percent (from Table 3, column E).
(Lhw) Allowable headworks pollutant loading to the POTW in pounds per day (lbs/day - calculated).
Lhw = 8.34 * (Ccrit * (Qstr1 + Qpotw) - (Cstr * Qstr1)) / (1-Rpotw/100)
8.34 Unit conversion factor

Local Limits Calculation

TABLE 5 - Local Limits Determination Based on Acute Water Quality Standards

	LOCAL LIMITS CALCULATION DATA					MAXIMUM LOADING
Pollutant	POTW Flow (MGD) (Qpotw)	Receiving Stream Flow (MGD) (Qstr2)	Receiving Stream Concentration (mg/l) (Cstr)	Acute WQS (mg/l) (Ccrit)	Removal Efficiency (%) (Rpotw)	Allowable Headworks (lbs/day) (Lhw)
Arsenic	-	-	0	0.34000	-	-
Cadmium	-	-	0	-	-	-
Chromium	-	-	0		-	-
Copper	-	-	0	-	-	-
Cyanide	-	-	0	0.02200	-	-
Lead	-	-	0	-	-	-
Mercury	-	-	0	0.00165	-	-
Molybdenum	-	-	0		-	-
Nickel	-	-	0	-	-	-
Selenium	-	-	0		-	-
Silver	-	-	0	-	-	-
Zinc	-	-	0	-	-	-
Ammonia	-	-	0		-	-
BOD	-	-	0		-	-
TSS	-	-	0		-	-
Beryllium	-	-	0		-	-
	-	-	0		-	-
	-	-	0		-	-
	-	-	0		-	-
	-	-	0		-	-
	-	-	0		-	-
	-	-	0		-	-
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	-	-	0		-	-
	-	-	0		-	-

(Qpotw) POTW's average flow in MGD (from Table 2(b), cell B36).
(Qstr2) Receiving stream (upstream) flow used with acute water quality standards in MGD (from Table 2(b), cell G36).
(Cstr) Receiving stream background concentration in mg/l (from Table 3, column D).
(Ccrit) State acute water quality standard for a particular pollutant in mg/l (from PADEP Chapter 16 Appendix A Table 1 or user entered)
(Rpotw) Removal efficiency across POTW as percent (from Table 3, column E).
(Lhw) Allowable headworks pollutant loading to the POTW in pounds per day (lbs/day - calculated).
Lhw = 8.34 * (Ccrit * (Qstr2 + Qpotw) - (Cstr * Qstr2)) / (1-Rpotw/100)
8.34 Unit conversion factor

Local Limits Calculation

TABLE 6 - Local Limits Determination Based on Human Health Water Quality Standards

	LOCAL LIMITS CALCULATION DATA						MAXIMUM LOADING
Pollutant	POTW Flow (MGD) (Qpotw)	Receiving Stream Flow (MGD) (Qstr3 or Qstr4)	Receiving Stream Concentration (mg/l) (Cstr)	Human Health WQS (mg/l) (Ccrit)	Select Basis of Standard (from list)	Removal Efficiency (%) (Rpotw)	Allowable Headworks (lbs/day) (Lhw)
Arsenic	-	-	0	0.01	Threshold Human Health	-	-
Cadmium	-	-	0			-	-
Chromium	-	-	0			-	-
Copper	-	-	0			-	-
Cyanide	-	-	0	0.14	Threshold Human Health	-	-
Lead	-	-	0			-	-
Mercury	-	-	0	0.00005	Threshold Human Health	-	-
Molybdenum	-	-	0			-	-
Nickel	-	-	0	0.61	Threshold Human Health	-	-
Selenium	-	-	0			-	-
Silver	-	-	0			-	-
Zinc	-	-	0			-	-
Ammonia	-	-	0			-	-
BOD	-	-	0			-	-
TSS	-	-	0			-	-
Beryllium	-	-	0			-	-
	-	-	0			-	-
	-	-	0			-	-
	-	-	0			-	-
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(Qpotw) POTW's average flow in MGD (from Table 2(b), cell B36).
(Qstr3) Receiving stream (upstream) flow used with human health water quality standards in MGD (from Table 2(b), cell H36 or I36).
(Cstr) Receiving stream background concentration in mg/l (from Table 4, column D).
(Ccrit) State human health water quality standard for a particular pollutant in mg/l (from PADEP Chapter 16 Appendix A Table 1 or user entered)
(Rpotw) Removal efficiency across POTW as percent (from Table 3, column E).
(Lhw) Allowable headworks pollutant loading to the POTW in pounds per day (lbs/day - calculated).
Lhw = 8.34 * (Ccrit * (Qstr3 + Qpotw) - (Cstr * Qstr3)) / (1-Rpotw/100)
8.34 Unit conversion factor

Local Limits Calculation

TABLE 7 - Comparison of Water Quality Allowable Headworks Loadings

Pollutant	Allowable Headworks (NPDES) (lbs/day)	Allowable Headworks (CHRONIC) (lbs/day)	Allowable Headworks (ACUTE) (lbs/day)	Allowable Headworks (HUMAN HEALTH) (lbs/day)	Allowable Headworks (WATER QUALITY) (lbs/day)
Arsenic	-	-	-	-	-
Cadmium	-	-	-	-	-
Chromium	-	-	-	-	-
Copper	-	-	-	-	-
Cyanide	-	-	-	-	-
Lead	-	-	-	-	-
Mercury	-	-	-	-	-
Molybdenum	-	-	-	-	-
Nickel	-	-	-	-	-
Selenium	-	-	-	-	-
Silver	-	-	-	-	-
Zinc	-	-	-	-	-
Ammonia	-	-	-	-	-
BOD	-	-	-	-	-
TSS	-	-	-	-	-
Beryllium	-	-	-	-	-
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Allowable Headworks (NPDES) from Table 3, column F.
Allowable Headworks (CHRONIC) from Table 4, column G.
Allowable Headworks (ACUTE) from Table 5, column G.
Allowable Headworks (HUMAN HEALTH) from Table 6, column H.
Allowable Headworks (WATER QUALITY) is lowest value from columns B through E.

Local Limits Calculation

TABLE 8 - Local Limits Determination Based on Activated Sludge Inhibition Level

	LOCAL LIMITS CALCULATIONS DATA				MAXIMUM LOADING	
Pollutant	POTW Flow (MGD) (Qpotw)	Activated Sludge Inhibition Level (mg/l) (Ccrit)	Select Removal Efficiency (from list)	Removal Efficiency (%) (Rprim)	Allowable Headworks (lbs/day) (Lhw)	User Entered Removal Efficiency (%)
Arsenic	-	-			-	
Cadmium	-	-	Default (Through Primary)	-	-	
Chromium	-	-	Default (Through Primary)	-	-	
Copper	-	-	Default (Through Primary)	-	-	
Cyanide	-	-	Default (Through Primary)	-	-	
Lead	-	-	Default (Through Primary)	-	-	
Mercury	-	-	Default (Through Primary)	-	-	
Molybdenum	-	-			-	
Nickel	-	-	Default (Through Primary)	-	-	
Selenium	-	-			-	
Silver	-	-	Default (Through Primary)	-	-	
Zinc	-	-	Default (Through Primary)	-	-	
Ammonia	-	-			-	
BOD	-				-	
TSS	-				-	
Beryllium	-	-			-	
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(Qpotw) POTW's average flow in MGD (from Table 2(b), cell B36).
(Ccrit) Activated sludge threshold inhibition level, mg/l (EPA default or user entered).
(Rprim) Removal efficiency prior to activated sludge treatment unit as percent (EPA default or user entered).
(Lhw) Allowable headworks pollutant loading to the POTW in pounds per day (lbs/day - calculated).
Lhw = 8.34 * (Ccrit * Qpotw) / (1-Rprim/100)
8.34 Unit conversion factor

Local Limits Calculation

TABLE 9 - Local Limits Determination Based on Trickling Filter Inhibition Level

	LOCAL LIMITS CALCULATIONS DATA				MAXIMUM LOADING	
Pollutant	POTW Flow (MGD) (Qpotw)	Trickling Filter Inhibition Level (mg/l) (Ccrit)	Select Removal Efficiency (from list)	Removal Efficiency (%) (Rprim)	Allowable Headworks (lbs/day) (Lhw)	User Entered Removal Efficiency (%)
Arsenic	-	-	User Entered	-	-	
Cadmium	-	-	Default (Through Primary)	-	-	
Chromium	-	-	Default (Through Primary)	-	-	
Copper	-	-	Default (Through Primary)	-	-	
Cyanide	-	-	Default (Through Primary)	-	-	
Lead	-	-	Default (Through Primary)	-	-	
Mercury	-	-	Default (Through Primary)	-	-	
Molybdenum	-	-			-	
Nickel	-	-	Default (Through Primary)	-	-	
Selenium	-	-	User Entered	-	-	
Silver	-	-	Default (Through Primary)	-	-	
Zinc	-	-	Default (Through Primary)	-	-	
Ammonia	-	-			-	
BOD	-				-	
TSS	-				-	
Beryllium	-	-			-	
	-				-	
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(Qpotw) POTW's average flow in MGD (from Table 2(b), cell B36).
(Ccrit) Trickling filter threshold inhibition level, mg/l (EPA default or user entered).
(Rprim) Removal efficiency prior to trickling filter treatment unit as percent (user entered).
(Lhw) Allowable headworks pollutant loading to the POTW in pounds per day (lbs/day - calculated).
Lhw = 8.34 * (Ccrit * Qpotw) / (1-Rprim/100)
8.34 Unit conversion factor

Local Limits Calculation

TABLE 10 - Local Limits Determination Based on Nitrification Inhibition Level

	LOCAL LIMITS CALCULATIONS DATA				MAXIMUM LOADING	
Pollutant	POTW Flow (MGD) (Qpotw)	Nitrification Inhibition Level (mg/l) (Ccrit)	Select Removal Efficiency (from list)	Removal Efficiency (%) (Rsec)	Allowable Headworks (lbs/day) (Lhw)	User Entered Removal Efficiency (%)
Arsenic	-	-	User Entered	-	-	
Cadmium	-	-	Default (Through Primary)	-	-	
Chromium	-	-	Default (Through Primary)	-	-	
Copper	-	-	Default (Through Primary)	-	-	
Cyanide	-	-	Default (Through Primary)	-	-	
Lead	-	-	Default (Through Primary)	-	-	
Mercury	-	-	Default (Through Primary)	-	-	
Molybdenum	-	-			-	
Nickel	-	-	Default (Through Primary)	-	-	
Selenium	-	-	User Entered	-	-	
Silver	-	-	Default (Through Primary)	-	-	
Zinc	-	-	Default (Through Primary)	-	-	
Ammonia	-	-			-	
BOD	-				-	
TSS	-				-	
Beryllium	-	-			-	
	-				-	
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(Qpotw) POTW's average flow in MGD (from Table 2(b), cell B36).
(Ccrit) Nitrification threshold inhibition level, mg/l (EPA default or user entered).
(Rsec) Removal efficiency prior to nitrification treatment unit as percent (user entered).
(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day - calculated).
Lhw = (8.34 * Ccrit * Qpotw) / (1-Rsec/100)
8.34 Unit conversion factor

Local Limits Calculation

TABLE 11 - Local Limits Determination Based on Anaerobic Digester Inhibition Level (Conservative Pollutants)

	LOCAL LIMITS CALCULATIONS DATA				MAXIMUM LOADING
Pollutant	POTW Flow (MGD) (Qpotw)	Sludge Flow to Digester (MGD) (Qdig)	Anaerobic Digester Inhibition Level (mg/l) (Ccrit)	Removal Efficiency (%) (Rpotw)	Allowable Headworks (lbs/day) (Lhw)
Arsenic	-	-	-	-	-
Cadmium	-	-	-	-	-
Chromium	-	-	-	-	-
Copper	-	-	-	-	-
Cyanide					-
Lead	-	-	-	-	-
Mercury	-	-	-	-	-
Molybdenum	-	-	-	-	-
Nickel	-	-	-	-	-
Selenium	-	-	-	-	-
Silver	-	-	-	-	-
Zinc	-	-	-	-	-
Ammonia					-
BOD					-
TSS					-
Beryllium	-	-	-	-	-
	-	-		-	-
	-	-		-	-
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	-	-		-	-
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	-	-		-	-

(Qpotw) POTW's average flow in MGD (from Table 2(b), cell B36).
(Qdig) Average sludge flow to digester in MGD (from Table 2(b), cell D36).
(Ccrit) Anaerobic digester threshold inhibition level in mg/l (EPA default or user entered).
(Rpotw) Removal efficiency across POTW as percent (from Table 3, column E).
(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day - calculated).
Lhw = (8.34 * Ccrit * Qdig) / (Rpotw/100)
8.34 Unit conversion factor

Local Limits Calculation

TABLE 12 - Local Limits Determination Based on Anaerobic Digester Inhibition Level (Non-Conservative Pollutants)

	LOCAL LIMITS CALCULATIONS DATA					MAXIMUM LOADING
Pollutant	POTW Flow (MGD) (Qpotw)	Average Influent Concentration (mg/l) (Cinf)	Average Influent Load (lbs/day) (Linf)	Digester Pollutant Concentration (mg/l) (Cdig)	Anaerobic Digester Inhibition Level (mg/l) (Ccrit))	Allowable Headworks (lbs/day) (Lhw)
Cyanide	-	-	-		-	-
Ammonia	-	-	-		-	-
BOD	-	-	-			-
TSS	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-
	-	-	-			-

(Qpotw)	POTW's average flow in MGD (from Table 2(b), cell B36).
(Cinf)	POTW's average influent concentration in mg/l (from 'Monitoring data' sheet, row 43 or user entered).
(Linf)	POTW's average influent loading in pounds per day (lbs/day - calculated).
Linf =	8.34 * Cinf * Qpotw
8.34	Unit conversion factor
(Cdig)	Average pollutant concentration in sludge sent to the digester in mg/l (user entered).
(Ccrit)	Anaerobic digester threshold inhibition level in mg/l (EPA default or user entered).
(Lhw)	Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day - calculated).
Lhw =	Linf * (Ccrit/Cdig)

Local Limits Calculation

TABLE 13 - Comparison of Inhibition Allowable Headworks Loadings

Pollutant	Allowable Headworks (ACT. SLUDGE) (lbs/day)	Allowable Headworks (TRICK. FILTER) (lbs/day)	Allowable Headworks (NITRIF) (lbs/day)	Allowable Headworks (DIG. - CONSERV.) (lbs/day)	Allowable Headworks (DIG. - NON-CONS.) (lbs/day)	Most Stringent (INHIBITION) (lbs/day)	Maximum Influent Concentration (Cmaxin - mg/l)	Maximum Influent Loading (Lmaxin - lbs/d)	Allowable Headworks (INHIBITION) (lbs/d)
Arsenic	-	-	-	-	-	-	-	-	-
Cadmium	-	-	-	-	-	-	-	-	-
Chromium	-	-	-	-	-	-	-	-	-
Copper	-	-	-	-	-	-	-	-	-
Cyanide	-	-	-	-	-	-	-	-	-
Lead	-	-	-	-	-	-	-	-	-
Mercury	-	-	-	-	-	-	-	-	-
Molybdenum	-	-	-	-	-	-	-	-	-
Nickel	-	-	-	-	-	-	-	-	-
Selenium	-	-	-	-	-	-	-	-	-
Silver	-	-	-	-	-	-	-	-	-
Zinc	-	-	-	-	-	-	-	-	-
Ammonia	-	-	-	-	-	-	-	-	-
BOD	-	-	-	-	-	-	-	-	-
TSS	-	-	-	-	-	-	-	-	-
Beryllium	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-

Allowable Headworks (ACT. SLUDGE) from Table 8, column E.
Allowable Headworks (TRICK. FILTER) from Table 9, column E.
Allowable Headworks (NITRIF.) from Table 10, column E.
Allowable Headworks (DIG. - CONSERV.) from Table 11 column F.
Allowable Headworks (DIG. - NON_CONS.) from Table 12, column G.
Most Stringent (INHIBITION) is lowest value from columns B through F.

(Cmaxin) Maximum Influent Concentration (from 'Monitoring Data' sheet, row 44).
(Lmaxin) Maximum Influent Loading (calculated).
Lmaxin = 8.34 * Cmaxin * Qpotw
8.34 Unit conversion factor
(Qpotw) POTW's average flow in MGD (from Table 2(b), cell B36).
Allowable Headworks (INHIBITION) is highest value from column G or I.
Red Bold indicates that the allowable headworks loading is based on the maximum influent loading.

Local Limits Calculation

TABLE 14 - Local Limits Determination Based on Land Application Sludge Disposal

	LOCAL LIMITS CALCULATIONS DATA				MAXIMUM LOADING
Pollutant	POTW Flow (MGD) (Qpotw)	Sludge Flow to Disposal (MTD) (Qsldg)	Land Application Standard (mg/kg) (Cslcrit)	Removal Efficiency (%) (Rpotw)	Allowable Headworks (lbs/day) (Lhw)
Arsenic	-	-	41	-	-
Cadmium	-	-	39	-	-
Chromium	-	-		-	-
Copper	-	-	1500	-	-
Cyanide	-	-		-	-
Lead	-	-	300	-	-
Mercury	-	-	17	-	-
Molybdenum	-	-	75	-	-
Nickel	-	-	420	-	-
Selenium	-	-	100	-	-
Silver	-	-		-	-
Zinc	-	-	2800	-	-
Ammonia	-	-		-	-
BOD	-	-		-	-
TSS	-	-		-	-
Beryllium	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-
	-	-		-	-

(Qpotw)	POTW's average flow in MGD (from Table 2(b), cell B36).
(Qsldg)	Average sludge flow to disposal in dry metric tons per day (from Table 2(b), cell E36).
(Cslcrit)	Applicable sludge standard in mg/kg dry sludge (exceptional quality standard for land application or user entered).
(Rpotw)	Removal efficiency across POTW as a percent (from Table 3, column E).
(Lhw)	Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day - calculated).
Lhw =	(0.0022 * Cslcrit * Qsldg) / (Rpotw/100)
0.0022	Unit conversion factor

Local Limits Calculation

TABLE 15 - Local Limits Determination Based on Incineration Sludge Disposal

	LOCAL LIMITS CALCULATIONS DATA										MAXIMUM LOADING
Pollutant	Sludge Flow to Incineration (MTD) (Qinc)	Incinerator Dispersion Factor ($ug/m^3/g/sec$) (DF)	Incinerator Control Efficiency (%) (CE)	Risk Specific Concentration (ug/m^3) (RSC)	National Ambient Air Quality Standard (ug/m^3) (NAAQS)	National Emission Standard (g/d) (NESHAP)	POTW Flow (MGD) (Qpotw)	Sludge Flow to Disposal (MTD) (Qsldg)	Incineration Standard (mg/kg) (Cslcrit)	Removal Efficiency (%) (Rpotw)	Allowable Headworks (lbs/day) (Lhw)
Arsenic	-	-		-	-	-	-	-	-	-	-
Cadmium	-	-		-	-	-	-	-	-	-	-
Chromium	-	-			-	-	-	-	-	-	-
Copper	-	-	-	-	-	-	-	-	-	-	-
Cyanide	-	-	-	-	-	-	-	-	-	-	-
Lead	-	-		-	-	-	-	-	-	-	-
Mercury	-	-		-	-	-	-	-	-	-	-
Molybdenum	-	-	-	-	-	-	-	-	-	-	-
Nickel	-	-		-	-	-	-	-	-	-	-
Selenium	-	-	-	-	-	-	-	-	-	-	-
Silver	-	-	-	-	-	-	-	-	-	-	-
Zinc	-	-	-	-	-	-	-	-	-	-	-
Ammonia	-	-	-	-	-	-	-	-	-	-	-
BOD	-	-	-	-	-	-	-	-	-	-	-
TSS	-	-	-	-	-	-	-	-	-	-	-
Beryllium	-	-		-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-

(Qinc)	Average sludge flow to incinerator in dry metric tons per day (from Table 2(b), cell M36).
(DF)	Incinerator dispersion factor in $ug/m^3/g/sec$ (from Table 2(b), cell L36).
(CE)	Incinerator control efficiency for the pollutant as a percent (user entered).
(RSC)	Risk specific concentration limit in ug/m^3 (from 40 CFR 503.43(d) - Table 1 for arsenic, cadmium, and nickel; Table 2 for chromium; chromium user entered).
(NAAQS)	National ambient air quality standard in ug/m^3 (from 40 CFR 50.12).
(NESHAP)	National emission standard in g/d (from 40 CFR 61.52(b) for mercury and 40 CFR 61.32(a) for beryllium).
(Qpotw)	POTW's average flow in MGD (from Table 2(b), cell B36).
(Qsldg)	Average sludge flow to disposal in dry metric tons per day (from Table 2(b), cell E36).
(Cslcrit)	Applicable sludge standard in mg/kg dry sludge (calculated based on RSC, NAAQS, or NESHAP - see individual cells for formulas or Appendix T of EPA local limits guidance manual).
86400	Unit conversion factor
(Rpotw)	Removal efficiency across POTW as a percent (from Table 3, column E).
(Lhw)	Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day - calculated).
Lhw =	(0.0022 * Cslcrit * Qsldg) / (Rpotw/100)
0.0022	Unit conversion factor

Local Limits Calculation

TABLE 16 - Comparison of Sludge Allowable Headworks Loadings

Pollutant	Allowable Headworks (LAND APPL.) (lbs/day)	Allowable Headworks (INCINERATION) (lbs/day)	Allowable Headworks (SLUDGE) (lbs/d)
Arsenic	-	-	-
Cadmium	-	-	-
Chromium	-	-	-
Copper	-	-	-
Cyanide	-	-	-
Lead	-	-	-
Mercury	-	-	-
Molybdenum	-	-	-
Nickel	-	-	-
Selenium	-	-	-
Silver	-	-	-
Zinc	-	-	-
Ammonia	-	-	-
BOD	-	-	-
TSS	-	-	-
Beryllium	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

Allowable Headworks (LAND APPL.) from Table 14, column F.
Allowable Headworks (INCINERATION) from Table 15, column L.
Allowable Headworks (SLUDGE) is lowest value from column B and C.

Local Limits Calculation

TABLE 17 - Comparison of Allowable Headworks Loadings

Pollutant	Allowable Headworks (WATER QUALITY) (lbs/day)	Allowable Headworks (INHIBITION) (lbs/d)	Allowable Headworks (SLUDGE) (lbs/d)	Design Loading (lbs/d)	Maximum Allowable Headworks (MAHL - lbs/d)
Arsenic	-	-	-	-	-
Cadmium	-	-	-	-	-
Chromium	-	-	-	-	-
Copper	-	-	-	-	-
Cyanide	-	-	-	-	-
Lead	-	-	-	-	-
Mercury	-	-	-	-	-
Molybdenum	-	-	-	-	-
Nickel	-	-	-	-	-
Selenium	-	-	-	-	-
Silver	-	-	-	-	-
Zinc	-	-	-	-	-
Ammonia	-	-	-	-	-
BOD	-	-	-	-	-
TSS	-	-	-	-	-
Beryllium	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-

Allowable Headworks (WATER QUALITY) from Table 7, column F.
Allowable Headworks (INHIBITION) from Table 13, column J.
Allowable Headworks (SLUDGE) from Table 16, column D.
Design Loading of POTW treatment plant (user entered).
Maximum allowable headworks loading (MAHL) is lowest value from columns B through E.

POTW Name:

7/27/2011

Local Limits Calculation

TABLE 18 - Calculation of Local Limit

Pollutant	Maximum Allowable Headworks (MAHL - lbs/d)	Safety Factor (%) (SF)	Growth Allowance (%) (GA)	Nonindustrial Concentration (mg/l) (Cdom)	Nonindustrial Flow (MGD) (Qdom)	Nonindustrial Loading (lbs/day) (Ldom)	Hauled Waste Concentration (mg/l) (Chw)	Hauled Waste Flow (MGD) (Qhw)	Hauled Waste Loading (lbs/day) (Lhw)	Allowable Industrial Loading (MAIL - lbs/day)	Calculated Local Limit (mg/l) (Cind)	Basis of Limitation
Arsenic	-			-	-	0.0000	-	-	0.0000	-	-	-
Cadmium	-			-	-	0.0000	-	-	0.0000	-	-	-
Chromium	-			-	-	0.0000	-	-	0.0000	-	-	-
Copper	-			-	-	0.0000	-	-	0.0000	-	-	-
Cyanide	-			-	-	0.0000	-	-	0.0000	-	-	-
Lead	-			-	-	0.0000	-	-	0.0000	-	-	-
Mercury	-			-	-	0.0000	-	-	0.0000	-	-	-
Molybdenum	-			-	-	0.0000	-	-	0.0000	-	-	-
Nickel	-			-	-	0.0000	-	-	0.0000	-	-	-
Selenium	-			-	-	0.0000	-	-	0.0000	-	-	-
Silver	-			-	-	0.0000	-	-	0.0000	-	-	-
Zinc	-			-	-	0.0000	-	-	0.0000	-	-	-
Ammonia	-			-	-	0.0000	-	-	0.0000	-	-	-
BOD	-			-	-	0.0000	-	-	0.0000	-	-	-
TSS	-			-	-	0.0000	-	-	0.0000	-	-	-
Beryllium	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-
	-			-	-	0.0000	-	-	0.0000	-	-	-

(MAHL) Maximum allowable headworks loading (from Table 17, column F).
(SF) Safety factor as a percent (user entered).
(GA) Growth allowance as a percent (user entered).
(Cdom) Average domestic/commercial background concentration for a particular pollutant in mg/l (from 'Monitoring Data sheet row 43 or user entered).
(Qdom) Average domestic/commercial background flow in MGD (calculated).
Qdom = Qpotw - Qind - Qhw (values from Table 2(b), cells B36, C36, and K36)
(Ldom) Average domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (calculated).
Ldom = 8.34 * Cdom * Qdom
8.34 Unit conversion factor
(Chw) Average hauled waste concentration for a particular pollutant in mg/l (from "Monitoring Data" sheet, row 43 or user entered).
(Qhw) Average hauled waste flow in MGD (from Table 2(b), cell K36).
(Lhw) Average hauled waste loading to the POTW for a particular pollutant in pounds per day (calculated).
Lhw = 8.34 * Chw * Qhw
(MAIL) Maximum Allowable Industrial Load (calculated).
MAIL = MAHL * (1 - SF) - Ldom - Lhw
(Cind) Industrial allowable local limit for a given pollutant in mg/l (calculated).
Cind = MAIL/(8.34 * Qind)
Basis of Limitation is an identification of the lowest allowable headworks loading from Table 17.
Existing Local Limit from Table 3, column B.
Red Bold indicates a safety factor or growth allowance of less than 10%.

POTW Name:

Local Limits Calculation

Table 19 - Comparison of Existing and Calculated Local Limits

POTW Adopting MAIL	POTW Adopting Uniform Concentration

Pollutant	Existing Allowable Industrial Loading (lbs/d) (MAILex)	Calculated Allowable Industrial Loading (lbs/d) (MAIL)	Calculated Uniform Concentration Limit (mg/l) (Cind)	Existing Local Limit (mg/l) (Cind-ex)	Proposed Local Limit (mg/l)	Other Issues?	Basis of "Need Limit?"		
							Existing Limit	Avg Inf Loading	Max Inf Loading
Arsenic		-	-						
Cadmium		-	-						
Chromium		-	-						
Copper		-	-						
Cyanide		-	-						
Lead		-	-						
Mercury		-	-						
Molybdenum		-	-						
Nickel		-	-						
Selenium		-	-						
Silver		-	-						
Zinc		-	-						
Ammonia		-	-						
BOD		-	-						
TSS		-	-						
Beryllium		-	-						
		-	-						
		-	-						
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		-	-						

(MAILex) = Existing Maximum Allowable Industrial Load (user entered).
(MAIL) = Maximum Allowable Industrial Load (from Table 18, column K).
(Cind-ex) = Existing local limit for a given pollutant in mg/l (user entered).
(Cind) = Newly calculated local limit for a given pollutant in mg/l (from Table 18, column L).

Brown bold indicates that the calculated allowable industrial loading or local limit is less stringent than the existing loading or limit.
Green bold indicates that the calculated allowable industrial loading or local limit is new or more stringent than the existing loading or limit.
Red bold indicates that the proposed local limit is less stringent than the calculated limit.

Basis of "Need Limit?": "X" in "Existing Limit" column indicates that a local limit exists but no limit was proposed.
Basis of "Need Limit?": "X" in "Avg Inf Loading" column indicates that the average influent loading is greater than 60% of the MAHL.
Basis of "Need Limit?": "X" in "Max Inf Loading" column indicates that the maximum influent loading is greater than 80% of the MAHL.

Local Limits Calculation

TABLE 20 - Comparison of Allowable Headworks Loadings And Current Influent Loadings

Pollutant	Maximum Allowable Headworks (MAHL - lbs/d)	Average Influent Loading (lbs/day)	Average Percent Loaded (%)	Maximum Influent Loading (lbs/d)	Maximum Percent Loaded (%)
Arsenic	-	-	-	-	-
Cadmium	-	-	-	-	-
Chromium	-	-	-	-	-
Copper	-	-	-	-	-
Cyanide	-	-	-	-	-
Lead	-	-	-	-	-
Mercury	-	-	-	-	-
Molybdenum	-	-	-	-	-
Nickel	-	-	-	-	-
Selenium	-	-	-	-	-
Silver	-	-	-	-	-
Zinc	-	-	-	-	-
Ammonia	-	-	-	-	-
BOD	-	-	-	-	-
TSS	-	-	-	-	-
Beryllium	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
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(MAHL) Maximum Allowable Headworks Loading (from Table 17).
Average Influent Loading from 'Monitoring Data' sheet row 46.
Average Percent Loaded = (Average Influent Loading)/(Maximum Allowable Headworks Loading)*100
Maximum Influent Loading is the Maximum Influent Concentration from 'Monitoring Data' sheet row 44 converted to a loading using the POTW flow from Table 2(b), cell B36.
Maximum Percent Loaded = (Maximum Influent Loading)/(Maximum Allowable Headworks Loading)*100
Green bold indicates that the average percent loaded is greater than 60% or the maximum percent loaded is greater than 80%.
Red bold indicates that the percent loaded is greater than 100%.

Local Limits Calculation

TABLE 21 - Calculation of Influent, Effluent, and Sludge Goals

Pollutant	Maximum Allowable Headworks (MAHL - lbs/d)	POTW Flow (MGD) (Qpotw)	Influent Goal (mg/l) (MAHC)	Allowable Headworks (WATER QUALITY) (AHLwq - lbs/day)	Removal Efficiency (%) (Rpotw)	Effluent Goal (mg/l)	Allowable Headworks (SLUDGE) (AHLs - lbs/day)	Sludge Flow to Disposal (MTD) (Qsldg)	Sludge Goal (mg/kg)
Arsenic	-	-	-	-	-	-	-	0	-
Cadmium	-	-	-	-	-	-	-	0	-
Chromium	-	-	-	-	-	-	-	0	-
Copper	-	-	-	-	-	-	-	0	-
Cyanide	-	-	-	-	-	-	-	0	-
Lead	-	-	-	-	-	-	-	0	-
Mercury	-	-	-	-	-	-	-	0	-
Molybdenum	-	-	-	-	-	-	-	0	-
Nickel	-	-	-	-	-	-	-	0	-
Selenium	-	-	-	-	-	-	-	0	-
Silver	-	-	-	-	-	-	-	0	-
Zinc	-	-	-	-	-	-	-	0	-
Ammonia	-	-	-	-	-	-	-	0	-
BOD	-	-	-	-	-	-	-	0	-
TSS	-	-	-	-	-	-	-	0	-
Beryllium	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-
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	-	-	-	-	-	-	-	0	-
	-	-	-	-	-	-	-	0	-

(MAHL)	Maximum allowable headworks loading (from Table 18).
(Qpotw)	POTW's average flow in MGD (from Table 2(b), cell B36).
(MAHC)	Influent concentration necessary to meet effluent, sludge, and inhibition goals (calculated).
MAHC =	MAHL/(Qpotw * 8.34)
8.34	Unit conversion factor
(AHLwq)	Allowable Headworks (WATER QUALITY) from Table 7, column F.
(Rpotw)	Removal efficiency across POTW as percent (from Table 3, column F).
(Effluent Goal)	Discharge concentration necessary to meet NPDES limit or water quality standards (calculated)
Effluent Goal =	(AHLwq) * (1-Rpotw/100)/(8.34 * Qpotw)
(AHLs)	Allowable Headworks (SLUDGE) from Table 16, column D.
(Qsldg)	Average sludge flow to disposal in dry metric tons per day (from Table 2(b), cell E36).
(Sludge Goal)	Sludge standard used in headworks calculations for sludge protection (calculated)
Sludge Goal =	AHLs * (Rpotw/100) / (0.0022 * Qsldg)

Local Limits Calculation

Table 22 - Comparison of Influent, Effluent, and Sludge Goals to Monitoring Data

Pollutant	Influent Goal (mg/l) (MAHC)	Number of Influent Measurements	Number of Influent Exceedances	Influent Evaluation	Effluent Goal (mg/l)	Number of Effluent Measurements	Number of Effluent Exceedances	Effluent Evaluation	Sludge Goal (mg/kg)	Number of Sludge Measurements	Number of Sludge Exceedances	Sludge Evaluation
Arsenic	-	0	0	-	-	0	0	-	-	0	0	-
Cadmium	-	0	0	-	-	0	0	-	-	0	0	-
Chromium	-	0	0	-	-	0	0	-	-	0	0	-
Copper	-	0	0	-	-	0	0	-	-	0	0	-
Cyanide	-	0	0	-	-	0	0	-	-	0	0	-
Lead	-	0	0	-	-	0	0	-	-	0	0	-
Mercury	-	0	0	-	-	0	0	-	-	0	0	-
Molybdenum	-	0	0	-	-	0	0	-	-	0	0	-
Nickel	-	0	0	-	-	0	0	-	-	0	0	-
Selenium	-	0	0	-	-	0	0	-	-	0	0	-
Silver	-	0	0	-	-	0	0	-	-	0	0	-
Zinc	-	0	0	-	-	0	0	-	-	0	0	-
Ammonia	-	0	0	-	-	0	0	-	-	0	0	-
BOD	-	0	0	-	-	0	0	-	-	0	0	-
TSS	-	0	0	-	-	0	0	-	-	0	0	-
Beryllium	-	0	0	-	-	0	0	-	-	0	0	-
	-	0	0	-	-	0	0	-	-	0	0	-
	-	0	0	-	-	0	0	-	-	0	0	-
	-	0	0	-	-	0	0	-	-	0	0	-
	-	0	0	-	-	0	0	-	-	0	0	-
	-	0	0	-	-	0	0	-	-	0	0	-
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	-	0	0	-	-	0	0	-	-	0	0	-
	-	0	0	-	-	0	0	-	-	0	0	-
	-	0	0	-	-	0	0	-	-	0	0	-
	-	0	0	-	-	0	0	-	-	0	0	-

Evaluation = OK means that all of the monitoring data is below the goal.
Evaluation = ? means that 25% or less of all of the monitoring data is above the goal.
Evaluation = !! means that between 25% and 50% of all of the monitoring data is above the goal.
Evaluation = !!!! means that between 50% and 75% of all of the monitoring data is above the goal.
Evaluation = !!!!!! means that more than 75% of all of the monitoring data is above the goal.
Evaluation = "-" means that there is no goal or no monitoring data was used in the evaluation.
(Influent Goal) Influent concentration necessary to meet effluent, sludge, and inhibition goals (from Table 20).
(Effluent Goal) Discharge concentration necessary to meet NPDES limit or water quality standards (from Table 20).
(Sludge Goal) Sludge concentration necessary to meet sludge disposal goals (from Table 20).
Number of Measurements (columns C, G, and K) from 'Monitoring Data' sheet row 42.
Number of Exceedances (columns D, H, and L) is the number of sample results in 'Monitoring Data' sheet (rows 2 through 41) that exceed the listed goal.

POTW Name:

7/27/2011

POTW Monitoring Data

Date	As In (mg/l)	As Eff (mg/l)	As Daily Rem (%)	As Sl (mg/kg dry)	As Nonindust (mg/l)	As Hauled (mg/l)	Cd In (mg/l)	Cd Eff (mg/l)	Cd Daily Rem (%	Cd Sl (mg/kg dry)	Cd Nonindust (mg/l)	Cd Hauled (mg/l)
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Count	0	0	0	0	0	0	0	0	0	0	0	0
Average	-	-	-	-	-	-	-	-	-	-	-	-
Maximum	-	-	-	-	-	-	-	-	-	-	-	-
Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-
Loading	-	-		-			-	-		-		
Inf/Eff Removal (%)		-						-				
Inf/Sldg Removal (%)				-						-		

Actual Sample Result
Non-detect - detection limit used as a surrogate
Non-detect - half the detection limit used as a surrogate
Data point deleted because it was inconsistent with other data points
Red bold indicates results that are different from the average by more than 2 times the standard deviation for that pollutant and sample point.

POTW Name:

POTW Monitoring Data

Date	Cr In (mg/l)	Cr Eff (mg/l)	Cr Daily Rem (%)	Cr Sl (mg/kg dry)	Cr Nonindust (mg/l)	Cr Hauled (mg/l)	Cu In (mg/l)	Cu Eff (mg/l)	Cu Daily Rem (%)	Cu Sl (mg/kg dry)	Cu Nonindust (mg/l)	Cu Hauled (mg/l)
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Count	0	0	0	0	0	0	0	0	0	0	0	0
Average	-	-	-	-	-	-	-	-	-	-	-	-
Maximum	-	-	-	-	-	-	-	-	-	-	-	-
Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-
Loading	-	-		-			-	-		-		
Inf/Eff Removal (%)		-						-				
Inf/Sldg Removal (%)				-						-		

Actual Sample Result
Non-detect - detection
Non-detect - half the d
Data point deleted bec
Red bold indicates re

POTW Name:

POTW Monitoring Data

Date	CN In (mg/l)	CN Eff (mg/l)	CN Daily Rem (%	CN Sl (mg/kg dry)	CN Nonindust (mg/l)	CN Hauled (mg/l)	Pb In (mg/l)	Pb Eff (mg/l)	Pb Daily Rem (%)	Pb Sl (mg/kg dry)	Pb Nonindust (mg/l)	Pb Hauled (mg/l)
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Count	0	0	0	0	0	0	0	0	0	0	0	0
Average	-	-	-	-	-	-	-	-	-	-	-	-
Maximum	-	-	-	-	-	-	-	-	-	-	-	-
Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-
Loading	-	-		-			-	-		-		
Inf/Eff Removal (%)		-						-				
Inf/Sldg Removal (%)				Non-conserv poll						-		

Actual Sample Result
Non-detect - detection
Non-detect - half the d
Data point deleted bec
Red bold indicates re

POTW Name:

POTW Monitoring Data

Date	Hg In (mg/l)	Hg Eff (mg/l)	Hg Daily Rem (%	Hg Sl (mg/kg dry)	Hg Nonindust (mg/l)	Hg Hauled (mg/l)	Mo In (mg/l)	Mo Eff (mg/l)	Mo Daily Rem (%	Mo Sl (mg/kg dry)	Mo Nonindust (mg/l)	Mo Hauled (mg/l)
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Average	-	-	-	-	-	-	-	-	-	-	-	-
Maximum	-	-	-	-	-	-	-	-	-	-	-	-
Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-
Loading	-	-		-			-	-		-		
Inf/Eff Removal (%)		-						-				
Inf/Sldg Removal (%)				-						-		

Actual Sample Result
Non-detect - detection
Non-detect - half the d
Data point deleted bec
Red bold indicates re

POTW Name:

7/27/2011

POTW Monitoring Data

Date	Ni In (mg/l)	Ni Eff (mg/l)	Ni Daily Rem (%)	Ni Sl (mg/kg dry)	Ni Nonindust (mg/l)	Ni Hauled (mg/l)	Se In (mg/l)	Se Eff (mg/l)	Se Daily Rem (%)	Se Sl (mg/kg dry)	Se Nonindust (mg/l)	Se Hauled (mg/l)
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Count	0	0	0	0	0	0	0	0	0	0	0	0
Average	-	-	-	-	-	-	-	-	-	-	-	-
Maximum	-	-	-	-	-	-	-	-	-	-	-	-
Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-
Loading	-	-		-			-	-		-		
Inf/Eff Removal (%)		-						-				
Inf/Sldg Removal (%)				-						-		

Actual Sample Result
Non-detect - detection
Non-detect - half the d
Data point deleted bec
Red bold indicates re

POTW Name:

POTW Monitoring Data

Date	Ag In (mg/l)	Ag Eff (mg/l)	Ag Daily Rem (%)	Ag Sl (mg/kg dry)	Ag Nonindust (mg/l)	Ag Hauled (mg/l)	Zn In (mg/l)	Zn Eff (mg/l)	Zn Daily Rem (%)	Zn Sl (mg/kg dry)	Zn Nonindust (mg/l)	Zn Hauled (mg/l)
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Average	-	-	-	-	-	-	-	-	-	-	-	-
Maximum	-	-	-	-	-	-	-	-	-	-	-	-
Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-
Loading	-	-		-			-	-		-		
Inf/Eff Removal (%)		-						-				
Inf/Sldg Removal (%)				-						-		

Actual Sample Result
Non-detect - detection
Non-detect - half the d
Data point deleted bec
Red bold indicates re

POTW Name:

POTW Monitoring Data

Date	NH3-N In (mg/l)	NH3-N Eff (mg/l)	NH3-N Daily Rem (%)	NH3-N Sl (mg/kg dry)	NH3-N Nonindust (mg/l)	NH3-N Hauled (mg/l)	BOD In (mg/l)	BOD Eff (mg/l)	BOD Daily Rem (%)	BOD Sl (mg/kg dry)	BOD Nonindust (mg/l)	BOD Hauled (mg/l)
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Count	0	0	0	0	0	0	0	0	0	0	0	0
Average	-	-	-	-	-	-	-	-	-	-	-	-
Maximum	-	-	-	-	-	-	-	-	-	-	-	-
Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-
Loading	-	-		-			-	-		-		
Inf/Eff Removal (%)		-						-				
Inf/Sldg Removal (%)				Non-conserv poll						Non-conserv poll		

Actual Sample Result
Non-detect - detection
Non-detect - half the d
Data point deleted bec
Red bold indicates re

POTW Name:

7/27/2011

POTW Monitoring Data

Date	TSS In (mg/l)	TSS Eff (mg/l)	TSS Daily Rem (%)	TSS Sl (mg/kg dry)	TSS Nonindust (mg/l)	TSS Hauled (mg/l)	Be In (mg/l)	Be Eff (mg/l)	Be Daily Rem (%)	Be Sl (mg/kg dry)	Be Nonindust (mg/l)	Be Hauled (mg/l)
			-						-			
			-						-			
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			-						-			
			-						-			
Count	0	0	0	0	0	0	0	0	0	0	0	0
Average	-	-	-	-	-	-	-	-	-	-	-	-
Maximum	-	-	-	-	-	-	-	-	-	-	-	-
Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	-	-
Loading	-	-		-			-	-		-		
Inf/Eff Removal (%)		-						-				
Inf/Sldg Removal (%)				Non-conserv poll						-		

Actual Sample Result
Non-detect - detection
Non-detect - half the d
Data point deleted bec
Red bold indicates re

Version Pa 3.3